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L3 QUE L2 AND L1

=> d L2
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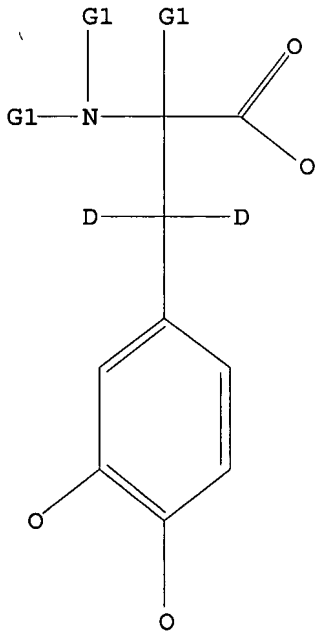

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Structure attributes must be viewed using STN Express query preparation.

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FULL SEARCH INITIATED 16:07:36 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 14551 TO ITERATE

100.0% PROCESSED 14551 ITERATIONS 52 ANSWERS
SEARCH TIME: 00.00.01

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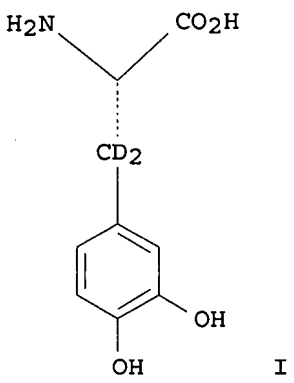
=> s L4
L5 24 L4

=> d L5 1-24 bib abs

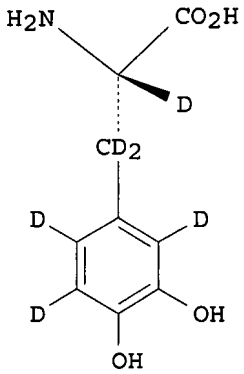
L5 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:525997 CAPLUS
DN 141:89365
TI Deuterated catecholamine derivatives as well as these compounds containing drug
IN Alken, Rudolf-Giesbert
PA Turicum Drug Development AG, Switz.
SO Ger. Offen., 12 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10261807	A1	20040701	DE 2002-10261807	20021219
	CA 2513088	A1	20040708	CA 2003-2513088	20031218
	WO 2004056724	A1	20040708	WO 2003-DE4203	20031218
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003289841	A1	20040714	AU 2003-289841	20031218
	EP 1613571	A1	20060111	EP 2003-782168	20031218
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	CN 1738782	A	20060222	CN 2003-80108990	20031218
	JP 2006510686	T	20060330	JP 2004-561054	20031218
	US 2006135615	A1	20060622	US 2006-539845	20060209
PRAI	DE 2002-10261807	A	20021219		
	WO 2003-DE4203	W	20031218		

OS MARPAT 141:89365
GI



I



II

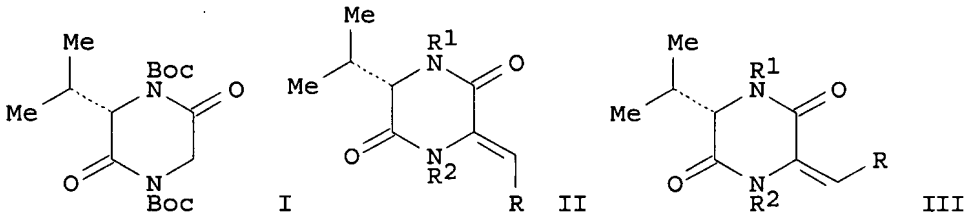
AB The present invention concerns preparation of deuterated catecholamine derivs. and their therapeutic use in treating medical conditions, either alone or in conjunction with other active agents. In addition the invention concerns the use of deuterated catecholamine derivs. as well as their physiol. compatible salts, or pharmaceutical compns. containing deuterated catecholamine derivs. or their physiol. compatible salts, for the treatment of illnesses of lack of dopamine and/or illnesses, which are based on disturbed tyrosine transport or disturbed tyrosine decarboxylase, such as Parkinson's disease, Restless Legs syndrome, dystonia, for the inhibition of prolactin secretion, for the stimulation of growth hormone release, for the treatment of the neurol. symptoms of chronic manganese poisonings, of amyotrophic lateral sclerose and of multiple system atrophy, as well as the prophylaxis of psychoses, schizophrenia, and acute psychoses, preferably psychoses with neg. symptomatol., in particular also schizophrenia (no data). Thus, a DL-mixture of 2-acetylamino-3,3-dideuterio-3-(3,4-dimethoxyphenyl)propionic acid was resolved using (R)-1-phenethylamine, and the D- and L-free bases isolated; the L-fraction was N-deacetylated and O-demethylated to give title compound (I) in 96% yield. Similarly prepared were the D-I, and (II) in 92 and 84%, resp.

L5 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:357850 CAPLUS
DN 133:129208
TI EPR Studies of Chromium(V) Intermediates Generated via Reduction of Chromium(VI) by DOPA and Related Catecholamines: Potential Role for Oxidized Amino Acids in Chromium-Induced Cancers
AU Pattison, David I.; Lay, Peter A.; Davies, Michael J.
CS School of Chemistry, University of Sydney, Sydney, 2006, Australia
SO Inorganic Chemistry (2000), 39(13), 2729-2739
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society
DT Journal
LA English
AB The redns. of K2Cr2O7 by catecholamines, DOPA, DOPA-β,β-d2, N-acetyl-DOPA, α-methyl-DOPA, dopamine, adrenaline, noradrenaline, catechol, 3,4-dihydroxybenzoic acid (DHBA), and 4-tert-butylcatechol (TBC), produce a number of Cr(V) EPR signals. These species are of interest in relation to the potential role of oxidized proteins and amino acids in Cr-induced cancers. With excess organic ligand, all of the substrates yield Cr species with signals at giso .apprx. 1.972 (Aiso(53Cr) > 23.9 + 10-4 cm-1). These are similar to signals reported previously but were reassigned as octahedral Cr(V) species with mixed catechol-derived ligands, [CrV(semiquinone)2(catecholate)]+. Expts. with excess K2Cr2O7 show complex behavior with the catecholamines and TBC. Several weak Cr(V) signals are detected after mixing, and the spectra evolve over time to yield relatively stable substrate-dependent signals at giso .apprx. 1.980. These signals were attributed to [Cr(O)L2]- (L = diolato) species, in which the Cr is coordinated to two cyclized catecholamine ligands and an

oxo ligand. Isotopic labeling studies with DOPA (ring or side chain deuteration or enrichment with 15N), and simulation of the signals, show that the superhyperfine couplings originate from the side chain protons, confirming that the catecholamine ligands are cyclized. At pH 3.5, a major short-lived EPR signal is observed for many of the substrates at giso .apprx. 1.969, but the species responsible for this signal was not identified. Several other minor Cr signals are detected, which are attributed (by comparison with isoelectronic V(IV) species) to Cr(V) complexes coordinated by a single catecholamine ligand (and auxiliary ligands e.g. H2O), or to [Cr(O)L2]- (L = diolato) species with a 6th ligand (e.g. H2O). Addition of catalase or deoxygenation of the solns. did not affect the main EPR signals. When the substrates were in excess (pH > 4.5), primary and secondary (cyclized) semiquinones were also detected. Semiquinone stabilization by Zn(II) complexation yielded stronger EPR signals (giso .apprx. 2.004).

RE.CNT 77 THERE ARE 77 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:172416 CAPLUS
DN 128:283042
TI Stereo-divergent synthesis of L-threo- and L-erythro-[2,3-2H2]amino acids using optically active dioxopiperazine as a chiral template
AU Oba, Makoto; Terauchi, Tsutomu; Owari, Yuki; Imai, Yoko; Motoyama, Izumi; Nishiyama, Kozaburo
CS Department of Material Science and Technology, Tokai University, Shizuoka, 410-03, Japan
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1998), (7), 1275-1282
CODEN: JCPRB4; ISSN: 0300-922X
PB Royal Society of Chemistry
DT Journal
LA English
OS CASREACT 128:283042
GI



AB A stereodivergent synthesis of L-threo- and L-erythro-[2,3-2H2]amino acids from the same chiral auxiliary is described. Aldolization of protected dioxopiperazine I (Boc = CO2CMe3), derived from L-valine, with various aldehydes RCHO [R1 = Ph, 4-MeOC6H4, 3,4-(MeO)2C6H3, Me2CD] followed by successive elaboration gives various 2,3-dehydroamino acid derivs II and III (R1 = R2 = H, Boc; R1 = Boc, R2 = H, Ac; R1 = Ac, R2 = Ac, Boc). Catalytic deuteration of II and III followed by acidic hydrolysis affords L-[2,3-2H2]amino acids in good yields with high optical purities. It becomes clear that diastereoselective deuteration for either the threo or the erythro isomer depends upon the protective groups on the nitrogen atoms in the dioxopiperazine ring. Thus, catalytic deuteration of II (R1 = R2 = Boc) gave 74% L-erythro-[2,3-2H2]phenylalanine with 98% e.e., while catalytic deuteration of II (R1 = R2 = H) gave 85% L-threo-[2,3-2H2]phenylalanine with 91% e.e.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1994:260260 CAPLUS
DN 120:260260
TI Quantitative analysis of low molecular weight compounds of biological interest by matrix-assisted laser desorption ionization
AU Duncan, Mark W.; Matanovic, Gabrijela; Cerpa-Poljak, Anne
CS Biomed. Mass Spectrometry Unit, Univ. New South Wales, Kensington, 2033, Australia
SO Rapid Communications in Mass Spectrometry (1993), 7(12), 1090-4
CODEN: RCMSEF; ISSN: 0951-4198
DT Journal
LA English
AB Internal stds. were used to demonstrate that matrix-assisted laser desorption/ionization (MALDI) mass spectrometry can be applied to the quant. anal. of low mol. weight polar compds. Three examples were tested: a standard curve for 3,4-dihydroxyphenylalanine (DOPA) was prepared using a stable isotope analog (i.e., [13C6]DOPA) as an internal standard; [2H16]-acetylcholine was employed as an internal standard for the quantification of acetylcholine; and in the final example, the peptide Ac-Ser-Ile-Arg-His-Tyr-NH2 was used as an internal standard for the quantification of the peptide H-Ser-Ala-Leu-Arg-His-Tyr-NH2. In each instance, straight line fits (r2>0.95) demonstrate that MALDI is a viable approach for the quant. anal. of low mol. weight analytes.

L5 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1992:465960 CAPLUS
DN 117:65960
TI Preparation of radioactively labeled isodityrosine
AU Miller, Janice G.; Fry, Stephen C.
CS Cent. Plant Sci., Univ. Edinburgh, Edinburgh, EH9 3JH, UK
SO Phytochemical Analysis (1992), 3(2), 61-4
CODEN: PHANEL; ISSN: 0958-0344
DT Journal
LA English
AB Oxidation of L-[U-14C]tyrosine with 2.7 molar equivalents of alkaline hexacyanoferrate(III) yielded at least 12 chromatog. mobile oxidation products and a large amount of immobile material. Use of 0.23 molar equivalents of hexacyanoferrate(III) yielded [14C]dityrosine (.apprx.1.3% of added [14C]tyrosine) and [14C]isodityrosine (.apprx.0.6%). A chromatog. method is described for the isolation of these two products from the mixture A method is also described for the preparation of [3H]isodityrosine from non-radioactive isodityrosine by catalytic exchange with 3H2. The [3H]isodityrosine formed was essentially stable in 6 M HCl at 110°C, indicating that the tritiation occurred at the benzylic groups.

L5 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1991:118039 CAPLUS
DN 114:118039
TI Fast enzymic preparation of L-DOPA from tyrosine and molecular oxygen: a potential method for preparing [oxygen-15]L-DOPA
AU Maddaluno, Jacques F.; Faull, Kym F.
CS Sch. Med., Stanford Univ., Stanford, CA, 94305, USA
SO Applied Radiation and Isotopes (1990), 41(9), 873-8
CODEN: ARISEF; ISSN: 0883-2889
DT Journal
LA English
AB A fast, simple, and inexpensive enzymic preparation of L-DOPA from mol. oxygen and tyrosine using mushroom tyrosinase is described. The theor. incubation time for production of [15O]L-DOPA with maximal specific activity from [15O]O2 can be calculated to be about 3 min. In practice, using a specially designed glass reaction chamber to facilitate the incorporation of gaseous mol. oxygen into L-DOPA with zero lag-time, a 3-min reaction with 1% oxygen in nitrogen results in the formation of approx. 3.9 μmol

of L-DOPA, representing conversion of about 14% of the tyrosine substrate. Given access to a supply of [15O]O2, the method should be applicable to the preparation of [15O]L-DOPA for use as a PET tracer.

L5 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1990:508668 CAPLUS
DN 113:108668
TI Comparative in vivo metabolism of 6-[18F]fluoro-L-DOPA and [3H]L-DOPA in rats
AU Melega, William P.; Luxen, Andre; Perlmutter, Milton M.; Nissenson, Charna H. K.; Phelps, Michael E.; Barrio, Jorge R.
CS Sch. Med., UCLA, Los Angeles, CA, 90024, USA
SO Biochemical Pharmacology (1990), 39(12), 1853-60
CODEN: BCPCA6; ISSN: 0006-2952
DT Journal
LA English
AB In vivo double-labeled expts in rats were designed to correlate the peripheral and cerebral metabolism of 6-[18F]fluoro-L-DOPA ([18F]FDOPA) with that of [3H]L-DOPA. Authentic samples of the major [18F]DOPA metabolites were synthesized to identify the 18F-labeled metabolites. After carbidopa pretreatment and i.v. administration of the compound, the products of peripheral metabolism in plasma were analyzed at times from 3 to 60 min. In he periphery, amine conjugates were detected but they accounted for <15% of the total radioactivity; the major metabolites were 3-O-methyl-6[18F]fluoro-L-DOPA and 3-O-methyl-[3H]L-DOPA. The rate and extent of 3-O-methylation of [18F]FDOPA exceeded that [3H]L-DOPA. Both 3-O-methylated products entered the striatum and cerebellum where they contributed significant but uniform activity. Anal. of cerebral metabolism in these structures indicated a linear accumulation of total radioactivity: a striatum/cerebellum ratio of 2 was observed by 60 min. 6-[18F]fluorodopamine (35%) and [3H]dopamine (55%) were the major metabolites formed in the striatum: however, the methylated [18F]FDOPA and [3H]DOPA products of predominantly peripheral origin represented 55% (18F) and 35% (3H) of the total radioactivity, resp. Other [3H]dopamine metabolites and their 18F-labeled analogs represented <10-15% at times analyzed. The cerebellum radioactivity was composed only of [18F]FDOA, [3H]DOPA and their 3-O-methylated products. These data will serve as the basis for the development of kinetic models of [18]FDOPA metabolism that can be applied to he evaluation of central dopamine biochem. with positron emission tomog. in humans.

L5 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1987:403324 CAPLUS
DN 107:3324
TI Cerebral metabolism of 6-[18F]fluoro-L-3,4-dihydroxyphenylalanine in the primate
AU Firnau, G.; Sood, S.; Chirakal, R.; Nahmias, C.; Garnett, E. S.
CS Chedoke-McMaster Hosp., McMaster Univ., Hamilton, ON, Can.
SO Journal of Neurochemistry (1987), 48(4), 1077-82
CODEN: JONRA9; ISSN: 0022-3042
DT Journal
LA English
AB The tracers 6-[18F]fluoro-L-DOPA and L-[14C]DOPA were injected simultaneously into rhesus monkeys, and the time course of their metabolites was measured in the striatum and in the occipital and frontal cortexes. In the striatum, 6-[18F]fluoro-L-DOPA was metabolized to 6-[18F]fluorodopamine, 3,4-dihydroxy-6-[18F]fluorophenylacetic acid, and 6-[18F]fluorohomovanillic acid. The metabolite pattern was qual. similar to that of L-[14C]DOPA. 6-[18F]Fluorodopamine was synthesized faster than [14C]dopamine. In the frontal cortex, the major metabolite was also 6-[18F]fluorodopamine or [14C]dopamine. In the occipital cortex, the major metabolite was 3-O-methyl-6-[18F]fluoro-L-DOPA. On the basis of these data, the images obtained with 6-[18F]fluoro-L-DOPA and positron emission tomog. in humans can now be interpreted in neurochem. terms.

L5 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1986:81911 CAPLUS
DN 104:81911
TI Changes in brain catecholamine levels following DL-DOPA are not potentiated by deuterium substitution
AU Dewar, Karen M.; Dyck, Lillian E.; Durden, David A.; Boulton, A. A.
CS Psychiatr. Res. Div., Univ. Saskatchewan, Saskatoon, SK, S7N 0W0, Can.
SO Progress in Neuro-Psychopharmacology & Biological Psychiatry (1985), 9(5-6), 675-80
CODEN: PNPPD7; ISSN: 0278-5846
DT Journal
LA English
AB In rats treated with either DL-dopa [63-84-3] or its deuterated analog D3-DL-dopa [100364-65-6], total dopamine [51-61-6] levels in the brain striatum increased above control values; however, no differences were observed in the effects between these 2 treatments. Total noradrenaline [51-41-2] levels were not significantly altered by treatment with either DL-dopa or D3-DL-dopa. Thus, D substitution does not appear to affect catecholamine deamination or β-hydroxylation in vivo.

L5 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1984:403121 CAPLUS
DN 101:3121
TI Characteristics of kinetics of metabolism and the biological action of tritium-labeled organic compounds
AU Zhuravlev, V. F.; Kalyazina, N. S.; Klykov, O. V.; Goryacheva, T. I.
CS USSR
SO Biol. Effekty Mal. Doz. Radiatsii, M. (1983) 74-7
From: Ref. Zh., Radiats. Biol. 1984, Abstr. No. 270102
DT Journal
LA Russian
AB Title only translated.

L5 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1983:418678 CAPLUS
DN 99:18678
TI Magnitude of intrinsic isotope effects in the dopamine β-monooxygenase reaction
AU Miller, Susan M.; Klinman, Judith P.
CS Dep. Chem., Univ. California, Berkeley, CA, 94720, USA
SO Biochemistry (1983), 22(13), 3091-6
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
AB Intrinsic primary H isotope effects (kH/kD) were obtained for the C-H bond cleavage step catalyzed by bovine adrenal gland dopamine β-monooxygenase (I). The irreversibility of this step is inferred from the failure to observe back-exchange of 3H from 3HO1H into substrate under conditions of dopamine turnover; this result cannot be due to solvent inaccessibility at the enzyme active site, since a solvent-derived proton or triton must be at the enzyme active site prior to substrate activation. As shown by D. B. Northrop (1975) for enzymic reactions in which the C-H bond cleavage step is irreversible, comparison of D(V/K) to T(V/K) allows an explicit solution for kH/kD. By employing a double-label tracer method, deuterium isotope effects on Vmax/Km could be measured with high precision, D(V/K) = 2.756 at pH 6.0. The magnitude of the tritium isotope effect under comparable exptl. conditions was T(V/K) = 6.079 yielding kH/kD = 9.4. This result was obtained in the presence of saturating concns. of the anion activator, fumarate. Elimination of fumarate from the reaction mixture led to high observed values for isotope effects on Vmax/Km, together with an essentially invariant value for kH/kD = 10.9. Thus, the large disparity between isotope effects, plus or minus fumarate, cannot be accounted for by a change in kH/kD, and it is concluded that fumarate plays a role in the modulation of the partitioning of enzyme-substrate complex between catalysis and substrate dissociation On the

basis of literature correlations of primary H isotope effects and the thermodn. properties of H-transfer reactions, the very large magnitude of kH/kD = 9.4-10.9 for I suggests an equilibrium constant close to unity for the C-H bond cleavage step. This feature, together with the failure to observe re-formation of dopamine from enzyme-bound intermediate or product and overall rate limitation of enzyme turnover by product release, leads to the proposal of a stepwise mechanism for norepinephrine formation from dopamine in which C-H bond cleavage is uncoupled from the O insertion step.

L5 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1982:577974 CAPLUS
DN 97:177974
TI Standardization of tritium-labeled compounds
AU Kalyazina, N. S.; Klykov, O. V.; Zhuravlev, V. F.; Moskalev, Yu. I.
CS USSR
SO Meditsinskaya Radiologiya (1982), 27(8), 53-7
CODEN: MERAA9; ISSN: 0025-8334
DT Journal
LA Russian
AB The kinetics of the metabolism of tritium in rats following i.p. administration of tritiated organic compds. (thymidine, ethyleneglycol, cytidine, EtOH, glucose, AcOH, and dopa) differed from that of HTO. The rate of removal of tritium administered in an organic compound was slower than that of HTO. Also tissue levels of tritium were higher after administration of the label in organic compds. The toxicity of the organic tritiated compds. was also higher than that of HTO. The half-life constant, absorbed dose, and permissible concns. of tritium in workers exposed to HTO and the above-mentioned tritiated compds. were calculated

L5 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1982:180880 CAPLUS
DN 96:180880
TI Deuterium exchange labeling of biologically important phenols, indoles, and steroids
AU Vining, R. F.; Smythe, G. A.; Long, M. A.
CS Garvan Inst. Med. Res., St. Vincent's Hosp., Sydney, 2010, Australia
SO Journal of Labelled Compounds and Radiopharmaceuticals (1981), 18(11), 1683-92
CODEN: JLCRD4; ISSN: 0362-4803
DT Journal
LA English
AB Deuterated analogs of phenolic steroids, catechols, and indole derivs. were prepared in high chemical yield by heating the relevant compound in D2O at 190° in a sealed tube for 24 h. E.g., vanillin in D2O gave >95% vanillin-5-d1 almost exclusively. Care must be exercised in the heating of the sealed tubes due to considerable risk of explosion.

L5 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1982:100179 CAPLUS
DN 96:100179
TI Effect of the form of the introduced compound and isotopic carrier on the kinetics of carbon-14, tritium, and iodine-125 metabolism
AU Moskalev, Yu. I.; Kalistratova, V. S.; Vasilenko, I. Ya.; Bugryshev, P. F.; Kalyazina, N. S.; Zhuravlev, V. F.
CS Inst. Biofiz., Moscow, USSR
SO Rep.-SAAS - Staatl. Amt Atomsicherh. Strahlenschutz DDR (1981), SAAS-280, Itogovaya Konf. Nauchno - Tekh. Sotr. Obl. Radiats. Bezop. Minist. Zdravookhr. SSSR Gos. Upr. At. Bezop. Zashch. Izluch. Period 1979 - 1980, 181-96
CODEN: RSADDL; ISSN: 0138-2551
DT Report
LA Russian
AB The effects of form (organic or inorg.) on the metabolism of 14C, 3H, and 125I in

rats were studied. The inorg. Na214CO3, K214CO3, and Ca14CO3 were rapidly absorbed by the gastrointestinal tract and 14CO2 was rapidly eliminated via respiration. The organic labeled compds. glucose-14C, glycine-14C, and palmitate-14C were also rapidly absorbed by the intestine, but greater amts. of label were found in tissues, especially after glycine and palmitate administration. Labeling of tissues was also higher following administration of tritiated organic compds. (dopa-3H, [3H]EtOH, glucose-3H, acetate-3H, thymidine-3H, and cytidine-3H) than after tritium oxide administration. Accumulation (30-day) of label from dopa-3H was less by a factor of 3 and that of thymidine-3H was 28-fold greater than that of tritium oxide. In rats, resorption of 125I by the gastrointestinal tract was not affected by the presence of the isotope carrier 127I; however, incorporation of 125I by the thyroid gland was inhibited by the carrier.

L5 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1981:1628 CAPLUS
DN 94:1628
TI Tritiated DOPA: distribution in subcellular melanoma fractions and prospects for its radiotherapeutical use
AU Gavrilenko, I. S.; Rumyantsev, P. P.; Bulychev, A. G.; Zarembskii, R. A.; Ivanov, I. I.
CS Lab. Cell. Morphol., Inst. Cytol., Leningrad, USSR
SO Radiobiologia, Radiotherapia (1980), 21(4), 525-31
CODEN: RDBGAT; ISSN: 0033-8184
DT Journal
LA German
AB DOPA-3H was prepared and after injection into mice with Harding-Passey melanoma, radioactivity was selectively incorporated into tumor melanosomes and especially mitochondria. The incorporation of label into these 2 tumor cell fractions was associated with increases in tyrosinase activity. The highly selective absorption of DOPA-3H by melanocytes indicates that DOPA may be useful as the carrier of an emitter for the internal radiation therapy of melanoma.

L5 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1979:18868 CAPLUS
DN 90:18868
TI Autoradiographic and metabolic studies of Mycobacterium leprae
AU Khanolkar, Saroj R.; Ambrose, E. J.; Chulawala, R. G.; Bapat, C. V.
CS Found. Med. Res., Worli, India
SO Leprosy Review (1978), 49(3), 187-98
CODEN: LEREAA; ISSN: 0305-7518
DT Journal
LA English
AB Highly purified suspensions of M. leprae showed a progressive increase in the incorporation of thymidine-3H and DOPA(I)-3H in short-term cultures as shown by scintillation counting. The intact bacilli are known to have a high permeability barrier. Apparently, I-3H becomes trapped within this barrier and oxidized inside the bacilli. Tests by pretreatment with di-Et diithiocarbamate, an inhibitor of I, cold I, or hyaluronidase distinguished the uptake of I-3H by bacilli from the effects of connective tissue contamination. Similar increases in the labeling of bacilli by scintillation counting were observed by autoradiog. of the organisms. The scintillation method shows promise for rapidly identifying drug resistance in lepromatous patients relapsing while on treatment with dapsone, rifampicin, clofazimine, or other anti-leprosy drugs.

L5 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1973:402362 CAPLUS
DN 79:2362
TI Preparation of L-tyrosine-ring-14C, L-dopa- ring-14C, and related metabolites
AU Ellis, B. E.; Major, G.; Zenk, M. H.
CS Ruhr-Univ., Bochum-Querenburg, Fed. Rep. Ger.
SO Analytical Biochemistry (1973), 53(2), 470-7

CODEN: ANBCA2; ISSN: 0003-2697
DT Journal
LA English
AB The reversibility of the tyrosine phenol-lyase reaction was utilized to develop a simple system in which phenol-14C is incorporated into L-tyrosine in high yield. By use of mushroom tyrosinase, catechol-14C can be prepared from phenol-14C and L-dopa-14C from L-tyrosine-14C. Catechol-14C can also be incorporated into L-dopa-14C by use of tyrosine phenol-lyase, giving the possibility of preparing dopa with 2 labeling patterns in the ring when starting from phenol-14C. Two further tyrosine metabolites, p-coumaric acid and homogentisic acid, were also enzymically prepared with 14C in the ring.

L5 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1973:148206 CAPLUS
DN 78:148206
TI Possible differential radiolysis of amino acid optical isomers by carbon-14-labeled betas
AU Bernstein, William James; Lemmon, Richard M.; Calvin, Melvin
CS Lawrence Radiat. Lab., Univ. California, Berkeley, CA, USA
SO Mol. Evol. (1972), 151-5. Editor(s): Rohlfing, Duane L. Publisher: Plenum, New York, N. Y.
CODEN: 26NJAU
DT Conference
LA English
AB No differential radiolysis of the D- and L-isomers was detected in samples of 14C-labeled DL-amino acids irradiated intrenally by β- particles and their bremsstrahlung derived from the 14C, for 12-24 years. The radiation doses were 2.5-10.4 °°tme 107 rads. Norvaline, alanine, DOPA, aspartic acid, and methionine were analyze

L5 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1972:527015 CAPLUS
DN 77:127015
TI Thin-layer chromatographic separation of optical isomers on labeled dopa via dipeptide formation
AU Barooshian, Armen V.; Lautenschleger, Margaret J.; Harris, Wayne G.
CS Anal. Dep., New England Nucl. Corp., Boston, MA, USA
SO Analytical Biochemistry (1972), 49(2), 569-71
CODEN: ANBCA2; ISSN: 0003-2697
DT Journal
LA English
AB DL-Dopa-carboxyl-14C reacted with L-leucine-N-carboxy anhydride to give a diastereomeric mixture of L-Leu-D-Dopa-14C (I) and L-Leu-L-Dopa-14C (II). Thin-layer chromatog. of I and II gave Rf 0.38 and 0.56, resp.

L5 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1971:72582 CAPLUS
DN 74:72582
TI [3H]-Dopa in [3H]-tyrosine with high specific activity: a serious complication in the study of catechol amine metabolism
AU Waldeck, Bertil
CS Dep. Pharmacol., Univ. Goteborg, Goteborg, Swed.
SO Journal of Pharmacy and Pharmacology (1971), 23(1), 64-5
CODEN: JPPMAB; ISSN: 0022-3573
DT Journal
LA English
GI For diagram(s), see printed CA Issue.
AB The use of 3H-labeled tyrosine (I) with high specific activity, contaminated with 10% 3H-labeled dopa (3,4-dihydroxyphenyl-alanine), for the study of catechol amine metabolism in rats gave abnormally high values for the yields of labeled noradrenaline and dopamine. The levels of radioactive metabolites in heart were most significantly increased by the contamination, as compared with those in the caudate nucleus and the spinal cord.

L5 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1970:510104 CAPLUS
DN 73:110104
TI Deuteration and tritiation of aryl aldehydes in the formyl group and the synthesis of (+-)-3,4-dihydroxy[β-2H2]phenylalanine
AU Bennett, David John; Kriby, G. W.; Moss, V. A.
CS Chem. Dep., Univ. Technol., Loughborough, UK
SO Journal of the Chemical Society [Section] C: Organic (1970), (15), 2049-51
CODEN: JSOOAX; ISSN: 0022-4952
DT Journal
LA English
OS CASREACT 73:110104
AB Aryl aldehydes were converted into the corresponding α-aryl-α-morpholinoacetonitriles and by treatment with base into the derived benzylic anions. Quenching of these anions with D2O or T2O followed by hydrolysis with mineral acid, gave formyl-labeled aldehydes. 3,4-Dimethoxybenzaldehyde-formyl-d gave, when heated with alkali, 3,4-dimethoxybenzyl-methylene-d2 alc., a convenient starting material for the synthesis of (±)-3,4-dihydroxyphenylalanine-β,β-d2.

L5 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1970:435751 CAPLUS
DN 73:35751
TI Chemistry of melanins. XI. Distribution of the polymeric linkages in dopa-melanin
AU King, J. A. G.; Percival, A.; Robson, N. C.; Swan, G. A.
CS Dep. Org. Chem., Univ. Newcastle upon Tyne, Newcastle upon Tyne, UK
SO Journal of the Chemical Society [Section] C: Organic (1970), (10), 1418-22
CODEN: JSOOAX; ISSN: 0022-4952
DT Journal
LA English
AB Samples of (±)-3,4-dihydroxyphenylalanine deuterated at the α-, β-, 2-, 5-, and 6-positions were each converted into melanin, both by autoxidn. and enzymically, and the incorporation of D into these melanins was measured. The results were interpreted in terms of an outline structure suggested for dopa-melanin on the basis of earlier expts.; and the relative nos. of polymeric linkages at different positions of the polymeric units were estimated No evidence was found that enzymic dopa-melanin was fundamentally different from the autoxidative melanin. Dopa-melanin, prepared in vitro, appears to be an irregular polymer, containing a number of different types of unit, linked in various ways.

L5 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1970:415200 CAPLUS
DN 73:15200
TI Studies related to the chemistry of melanins. IX. Syntheses of specifically deuteriated 3,4-dihydroxyphenethylamines and (+-)-3,4-dihydroxyphenylalanines
AU Binns, F.; King, J. A. G.; Percival, A.; Robson, N. C.; Swan, George A.
CS Dep. Org. Chem., Univ. Newcastle upon Tyne, Newcastle upon Tyne, UK
SO Journal of the Chemical Society [Section] C: Organic (1970), (8), 1134-8
CODEN: JSOOAX; ISSN: 0022-4952
DT Journal
LA English
AB 3,4-Dihydroxyphenethylamine-HCl and (±)-3,4-dihydroxyphenylalanine deuterated at the α-, β-, 2-, 5, and 6-positions (sep.) were synthesized.

L5 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1966:35729 CAPLUS
DN 64:35729
OREF 64:6602a-b

TI Some studies of the formation and structure of melanins
AU Swan, George Albert
CS Univ. Newcastle-upon-Tyne, UK
SO Rend. Accad. Sci. Fis. Mat. (Soc. Nazl. Sci., Napoli) (1964), 31, 212-31
DT Journal
LA English
AB In addition to a literature review on the subject (25 references), studies are described of the formation of melanins (I), (a) enzymically, and (b) by autoxidn. from 2,3-(HO)2C6H3CH2CH(CO2H)NH2 (II) and 2,3-(HO)2C6H3CH2CH2NH2 (III). When II and III were labeled with D in the α or β position of the side chain and then converted to I, large retention of D was observed in the I. This suggests that the I are not polymers composed entirely of indole-5,6-quinone, but that they also contain uncyclized units of the precursors (or quinones derived from these) or (more probably) units of 2,3-dihydroindole-5,6-quinone. When I prepared from II-carboxy-14C was oxidized, the resulting pyrrole-2,3,5-tricarboxylic acid was radioactive while the pyrrole-2,3-dicarboxylic acid was inactive.

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